

Claims

WE CLAIM:

1. A computer program storage medium readable by a computing system and encoding a computer program for executing a computer process providing access to configuration information sourced by at least one datastore, the access being substantially specified by at least one input parameter; the computer process comprising:

5 providing a first level table object instantiated in accordance with a input parameter, the first level table object including a first table-oriented interface having a first table-oriented method;

receiving a call to the first table-oriented method in the first level table object;

10 executing a logic component module responsive to the call, if the first level table object provides domain-specific logic corresponding to the first table-oriented method; and

delegating the call to a corresponding table-oriented method of a lower-level table object to which the first level table object is bound, if the first level table object depends on the lower-level table object to completely service the call.

2. The computer program storage medium of claim 1 wherein the lower-level table object supports a second table-oriented interface identical to the first table-oriented interface of the first level table object.

3. The computer program storage medium of claim 1 wherein the delegating operation comprises:

replacing in a vtable an address to the first table-oriented method in the first level table object with an address to the corresponding table-oriented method of the lower-level table object

4. The computer program storage medium of claim 1 wherein the operation of executing a logic component module comprises:

intercepting the call to the first table-oriented method;

executing the domain-specific logic in a supplemental logic module of the first level table object, responsive to the call received by the first level table object.

5. The computer program storage medium of claim 4 wherein the operation for executing the domain-specific logic comprises:

enforcing complex relationships between a first column and a second column of a logic level table presented to a caller by the first level table object before the datastore is updated.

6. The computer program storage medium of claim 4 wherein the operation for executing the domain-specific logic comprises:

enforcing complex relationships between a logic level table presented to a caller by the first level table object and a second virtual table before the datastore associated with the logic

5 level table is updated.

7. The computer program storage medium of claim 4 wherein the operation for executing the domain-specific logic comprises:

filtering the configuration information accessible by a caller depending on a security level associated with the caller.

8. The computer program storage medium of claim 1 wherein the operation for executing a logic component module comprises:

intercepting the call to the first table-oriented method from a caller, the call being associated with a first coordinate in a logic level table presented to the caller by the first level table object; and

mapping the first coordinate to a second coordinate in a lower-level table presented to the first level table object by the lower-level table object.

9. The computer program storage medium of claim 1 wherein the operation for executing a logic component module comprises:

intercepting the call to the first table-oriented method from a caller, the call being associated with a first coordinate in a logic level table presented to the caller by the table-oriented interface and having no corresponding coordinate in a lower-level table presented by the lower-level table object;

synthesizing data to provide synthesized data associated with the first coordinate in the logic level table; and

returning the synthesized data to the caller.

10. The computer program storage medium of claim 9 wherein the operation for synthesizing data comprises:

accessing lower-level data from at least a second coordinate in the lower-level table; and
determining the synthesized data based on the lower-level data.

11. The computer program storage medium of claim 1 wherein the operation for executing a logic component module comprises:

triggering an operation external to the first level table object and the lower-level table object.

12. The computer program storage medium of claim 11 wherein the operation for triggering an operation comprises:

triggering a custom activator to provide external activation processing.

13. The computer program storage medium of claim 4 wherein the computer process further comprises:

storing a pointer to the lower-level object usable to access to a lower-level table-oriented method of the lower-level table object.

14. The computer program storage medium of claim 1 wherein the delegating operation comprises:

delegating the call to a corresponding table-oriented method of another lower-level table object to which the first level table object is also bound, if the first level table object depends on
5 the other lower-level table object to completely service the call.

15. The computer program storage medium of claim 1 wherein the computer process further comprises:

 caching read data from the lower-level table object in a read cache of the first level table object.

16. The computer program storage medium of claim 1 wherein the computer process further comprises:

 caching write data intended for the lower-level table object in a write cache of the first level table object.

17. A logic table object, executable by a computer, providing access to configuration information sourced by at least one datastore, the access being substantially specified by at least one input parameter, the logic table object comprising:

 a table-oriented interface including a table-oriented method accessible by a caller to access the configuration information and receiving a call from the caller to the table-oriented method;

 a logic component module providing domain-specific logic to the table-oriented method;

 an interception/delegation module executing the domain-specific logic of the logic component module, responsive to receipt of the call, and further delegating the call to a corresponding table-oriented method of a lower-level table object to which the logic table object is bound, if the logic table object depends on the lower-level table object to completely service the call.

18. The logic table object of claim 17 wherein the logic component module includes a mapping module for translating a first coordinate of a logic level table presented by the logic table object to a second coordinate in a lower-level table presented to the logic table object by the lower-level table object.

19. The logic table object of claim 18 wherein the logic component module includes a mapping lookup table having entries corresponding to coordinates of the logic level table, one or more of the entries including mapping instructions to corresponding coordinates in the lower-level table.

20. The logic table object of claim 17 wherein the logic component module includes a supplemental logic module having domain-specific logic to supplement functionality of the lower-level table object, responsive to the call received by the logic table object

21. The logic table object of claim 20 wherein the supplemental logic module triggers an external operation, responsive to the call.

22. The logic table object of claim 17 wherein the logic component module includes a synthesizing module synthesizing data associated with a first coordinate in a logic level table presented to the caller by the logic table object, wherein no corresponding coordinate exists in a lower-level table presented by the lower-level table object

23. The logic table object of claim 17 wherein the table-oriented interface supported by the logic table object is identical to a second table-oriented interface supported by the lower-level table object to which the logic table object is bound.

24. The logic table object of claim 17 further comprising a first field storing a first pointer to the lower-level object, the pointer being usable to access to a lower-level table-oriented method of the lower-level table object.

25. The logic table object of claim 24 further comprising a second field storing a second pointer to another lower-level table object, and wherein the logic component module comprises a mapping module translating a first coordinate of a logic level table presented by the logic table object to a second coordinate in a lower-level table presented to the logic table object by one of the lower-level table objects.

26. The logic table object of claim 17 further comprising a vtable storing an address to the corresponding table-oriented method of the lower-level table object that corresponds to the table-oriented method of the logic table object called by the caller.

27. The logic table object of claim 17 further comprising:
a read cache for caching data received from the lower-level table object.

28. The logic table object of claim 17 further comprising:
a write cache for caching data to be written to the lower-level table object.

29. A computer data signal embodied in a carrier wave by a computing system and encoding a computer program for executing a computer process providing access to requested configuration information through a first level table object including a first table-oriented interface having a first table-oriented method;, the computer program comprising:

5 receiving a call to the first table-oriented method in the first level table object;
intercepting the call to provide supplemental logic, if the first level table object provides domain-specific logic corresponding to the first table-oriented method; and
delegating the call to a corresponding table-oriented method of a lower-level table object to which the first level table object is bound, if the first level table object depends on the lower-level table object to completely service the call.

30. The computer data signal of claim 29 wherein the first level table object is instantiated in accordance with a input parameter to present a table of the requested configuration data.

31. The computer data signal of claim 29 wherein the computer process further comprises:

delegating the call to a corresponding table-oriented method of another lower-level table object to which the first level table object is also bound, if the first level table object depends on
5 the other lower-level table object to completely service the call.

32. The computer data signal of claim 31 wherein the computer process further comprises:

referencing a mapping lookup table to determine which lower-level table objects are delegated the table-oriented method call.

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